HOW TO MAKE LINOLEUM BLOCKS

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OFFICIALLY
WITHDRAWN

HOW TO MAKE LINOLEUM BLOCKS

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THIRD EDITION

COLORADO

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FOREWORD

Do you remember your joy as a child in stamping from an alphabet of rubber stamps your name and the names of your friends? And then if you were ambitious you probably cut your initials in a cork or the end of a stick and with the same ink pad, and much to the annoyance of your mother, stamped every book and paper in the house with this first effort at engraving. And if you still have that desire to express yourself through the medium of engraving and printing and as yet have not tried to express it, we cannot describe the thrill you will receive when you pull the first proof from a block you have engraved yourself.

While wood block printing probably lends itself as a better medium of expression for the experienced artist and craftsman, for the student linoleum has many advantages over wood. Linoleum block printing is simple and lends itself to many applications. Linoleum is reasonable in cost, can be engraved with simple tools and printed with little equipment. It is also possible and practical to mount the engravings on blocks of wood type high and

print on a flat bed press as many as 2000 impressions before the linoleum begins to break down. Also linoleum blocks can be printed in the same form with type very successfully.

As we mentioned above linoleum block printing is fascinating. So fascinating in fact that the beginner is liable to sacrifice both art and craftsmanship in his impatience to see a proof of his first efforts. This is not advisable. You should give careful thought to the design and execution of even the simplest problems with which you start. Each block you cut should teach you a little more of the possibilities or limitations of your medium and in this way you will build a solid foundation of knowledge and experience, a mastery of the material that will lead to prints of real artistic merit.

CONTENTS

I TOOLS AND EQUIPMENT 11

II THE DESIGN 18

III TRANSFERRING THE DESIGN TO THE LINOLEUM 21

IV CUTTING THE BLOCK 23

V PRINTING THE BLOCK 28

VI DESIGNING AND CUTTING BLOCKS OF TWO OR MORE COLORS 31

VII REGISTERING AND PRINTING TWO OR MORE BLOCKS 37

VIII PRACTICAL USES OF LINOLEUM BLOCK PRINTING 40

PLATES 45–64

HOW TO MAKE LINOLEUM BLOCKS

CHAPTER I

TOOLS AND EQUIPMENT

The tools and equipment necessary for engraving and printing linoleum blocks are very simple. We have engraved many blocks with nothing more than a pen knife and an old gouge and printed them by hand with oil paint, but it is foolish to handicap yourself in this way. A good craftsman does his best work only when he has the proper tools at hand and those tools are in proper condition. Also in studying the work of other artists you may find that they have produced a certain delightful effect in linoleum and you are at a loss to understand how it was done. On closer analysis you will find that this effect is probably the result of using a certain kind of gouge to cut the lines and that it would be impossible for you to reproduce the same effect in a free and natural way unless you had the same kind of tool to work with. The things you will find necessary to have on hand for your work are enumerated and described as follows——

LINOLEUM

Be sure you get the best grade of unpatterned cork linoleum. It must have a smooth surface, be

of even grain and ⅛ inch thick or thicker. We have tried many kinds and have always found that the best grade of Armstrong's ¼ inch Battleship Linoleum is the most satisfactory in every way.

GOUGES

The best gouges to use are wood carver's tools. When you buy them you will find that the blade is about 4 and ½ inches in length and the handle about 4 inches long. It is advisable to cut this handle down to about 2 inches, because it will fit better into the palm of the hand and allow the tool to be used with greater ease. If you find it is still too long and awkward for free use you can have the blade ground down to a convenient length. In Figure I, "A" shows the exact size and shape of cuts made by the four necessary gouges: "B" illustrates a gouge with handle cut down for free and easy use.

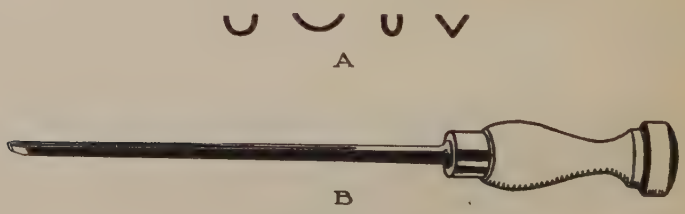


Figure 1

KNIFE

A knife with a sharp thin blade is essential. We recommend a stencil knife as the best as it has a very thin blade and can be ground to a very fine point. The blade, which slips into the handle, can be adjusted at the desired length and allows for many inches of grinding or sharpening. It should be ground at the angle illustrated in Figure 2. If it is not so when bought take it to a man who knows how to sharpen delicate tools and have him grind it properly. Then keep it that way. You will find in sharpening it on your oil stone that you have a tendency to grind more on the point than the rest of the blade and by degrees you get a rounded blade instead of the sharp needle-like point necessary to work with effectively.

Figure 2

OIL STONES

It is absolutely necessary that you keep all your tools properly ground and as sharp as possible at all times. If they are not kept so you will get a rough jagged line which will show in printing.

You will need a reversible carborundum stone, coarser on one side than on the other for grinding the tools, a fine oil stone to give them their fine cutting edge, and slip stones which slip inside the gouges and sharpen the inner edge.

STEEL SQUARE

This is necessary in order to cut registering marks correctly in designs cut in more than one color. Its size will depend on the size blocks you plan to cut. The sides of the square must be as long as the longest dimension of the block.

ALSO

You will need a ruler, a hard pencil and a palette knife.

PAPER

You will need carbon and tracing paper and for your prints Japanese paper is the best; or you may use any paper somewhat absorbent and not too rough. Experiment with different kinds of printing paper until you find the one from which you get the best results. Until you have acquired considerable experience in printing do not attempt to print light on dark paper, as this necessitates the use of opaque inks and they are a difficult medium to use.

PRINTERS INKS

These can be procured from any printer's supply store in all the necessary colors and can be

mixed to the desired color, shade or tint with a palette knife in the same manner as oil paint. If they are not of the proper consistency to print well they can be thinned with printer's reducing varnish or with linseed oil.

BRAYERS OR ROLLERS

These also can be procured from a printer's supply store. These are made with an iron handle and are used by printers for inking forms by hand to pull proofs. You will use them to charge your linoleum blocks with ink. The rollers are made of glue and molasses and are very sensitive to atmosphere and touch. When not in use they should be kept clean and greased. They should be hung so that they do not touch each other or anything else. If you should leave one on the table over night you would find it very lop sided and useless in the morning. Also in the summer time you may find it necessary to buy special summer brayers as the winter ones may be susceptible to the hot weather and become too soft and sticky for use.

MARBLE SLAB OR HEAVY PIECE OF PLATE GLASS

This is used to mix the ink. If glass is used place it over a piece of white paper so that you can see your colors more clearly in mixing.

PRESSES

You may use a Letter Press, a Washington proving press or a Job press for quantity work. If

a job press is used the linoleum must be mounted on a block of wood so that it is type high (about ⅞ inch). If a letter press is used the block must be placed in the middle of the press with proper padding above and below, so as to get an even pressure over the whole surface of the block. Or you may use an etching press or a clothes wringer press. Or if none of these is available it is possible to print the blocks by placing the paper on the inked block and rubbing it with the back of a spoon. Unquestionably the most satisfactory press, especially for large designs, is the Washington Proving press, but this may mean more of an investment in equipment than you wish to make. A clothes wringer press makes very good prints and you can build it yourself at very little cost. The clothes wringer is mounted, as illustrated in Figure 3, on a frame or the top of a box. A table

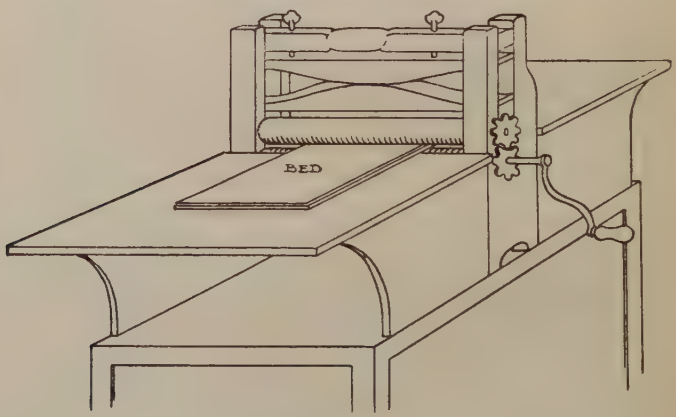


Figure 3

like top is built up on either side of the wringer, so that the top of the table is just slightly below the top surface of the bottom wringer roller. You must be careful in using any of these types of presses not to use too much pressure, because the soft part of the linoleum, just under the surface, is liable to be squeezed too much and it will then crumble and the ink will be spread in a smeared and messy line.

SMALL ACCESSORIES

Kerosene or gasoline for cleaning.

Clean cloths free from lint to dry the roller, slab and block.

Dauber, if you use oil paint. Made from a piece of cotton covered with oil silk and muslin and tied tightly to form a wad. When this method is followed the block is charged by daubing the paint evenly over the printing surface and then printed in any of the ways described above.

CHAPTER II

THE DESIGN

While it is our purpose in this book to teach you the craft of linoleum block printing and not the art of design or drawing, at the same time we must impress upon you the fact that the design is much more important than the craft. Regardless of what medium you use to express yourself it will avail you nothing to master the medium unless you have some idea to express. Because you had a large vocabulary and could spell correctly would you consider yourself an author unless you had something to say?

We see around us every day examples of excellent craftsmanship in textiles, furniture, pottery, etc. What a happy combination it would be if most of that craftmanship were combined with a little more real art!

In your enthusiasm to get to the engraving and printing of your block you may be inclined to hurry the design. Don't do this. Be sure you have a good design before you start cutting and you will save much valuable time and material. In the beginning it might pay you to study the work of other artists and even copy and cut a block of good simple design. In this way you will begin

to understand the possibilities and limitations of your medium. Begin with designs of broad, simple masses. Use mostly straight lines and do not attempt to cut them too fine. As you gain experience and mastery of the material you will be able to attempt more elaborate designs and finer lines.

Figure 4 shows the type of simple design that is best suited for the beginner.

Figure 4

In one color designs you will find that your composition generally consists of the play of light against dark and dark against light. It is not advisable at first to attempt half-tone colors with fine lines and cross-batching. As a matter of fact you will find with experience that linoleum itself suggests at all times broad and simple masses and, regardless of how many blocks you may cut, the best will always be those of bold, direct treatment. In studying the illustrations of this book you will see how easy it is to suggest a softening of edges and a modeling of form in a very simple way.

CHAPTER III

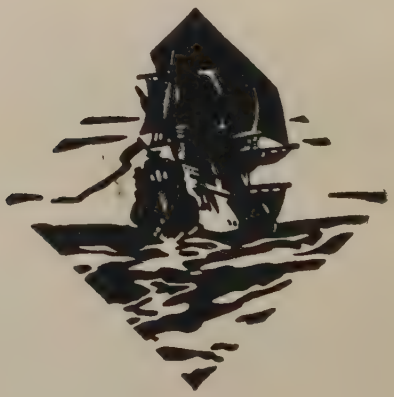
TRANSFERRING THE DESIGN TO THE LINOLEUM

It is possible to draw the design directly on the linoleum and a great many experienced artists do this, but it is difficult unless you are able to visualize your composition in the reverse and in the case of lettering this is particularly true. You must realize that the engraved block is the reverse of the design and the print will be the same as the design.

After you have worked out your composition on paper to your satisfaction make a tracing of it on thin tracing paper with a hard pencil or better still a very fine pen and black drawing ink. Remember in tracing that the parts of your design that are to print are in black and must be outlined accurately. The white parts of the design are the parts that are to be cut away. The design is now ready to be transferred to the linoleum.

Before transferring, the linoleum must be prepared. In cutting the linoleum to the desired size turn it over and make a straight cut through the canvas on the back. Then bend towards the linoleum side and it will readily break straight and true. Now wash the surface of the block with

soap and water to remove any grease and then coat it thinly with white water color paint. Be sure you do not put this on too thick for if you do it will crack when dry. The reason for this process is that the design can be more easily seen against this white surface than against the dark color of the linoleum. Now place the tracing on the block reversed (as it would be seen in a looking glass) and with transfer or carbon paper transfer the design to the block carefully, using a hard sharp pointed pencil. If it is difficult to see the lines of your tracing when it is reversed rub the reverse side with a little oil or cold cream. This will hardly be necessary if the tracing is made with pen and drawing ink.



CHAPTER IV

CUTTING THE BLOCK

Remember that the parts which are to print are left in relief and the rest is cut away. If you are confused at first about the parts to cut away and the parts to leave, mark with a cross or in some way indicate the parts to leave, because it is very easy at first to make mistakes and cut into or entirely remove important areas of your design. With your knife held so as to cut outward and away from the outline of your design which is to print (illustrated in Figure 5), make a fine cut all around the parts which are to be left. When you have done this reverse the slant of the knife and cut a V shaped groove, about $\frac{1}{16}$" to $\frac{1}{8}$" wide, all around the parts that are to be in relief (also illustrated in Figure 5). Be very careful in removing the sliver of linoleum that results from this cut, because if you mar the edges of the printing surface in any way it will show in the print.

You must never under any circumstances cut under the edges of the printing surface, as illustrated in Figure 6. If you did this the edges would break down under the pressure of printing.

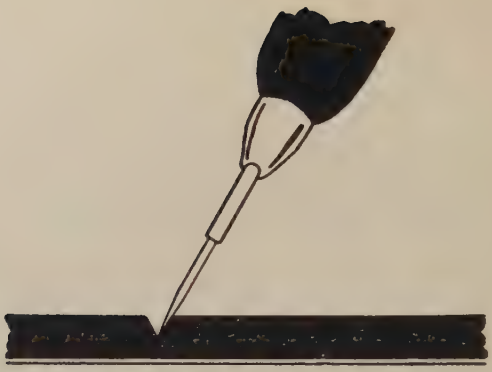


Figure 5

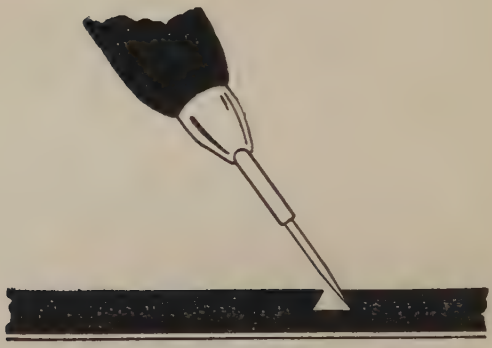


Figure 6

With the gouges you can now clear away or rout out all the parts that are not to be printed, being very careful not to jam or mar the edges of the printing surface. Be sure that these areas are well cleared so that the paper will not squeeze

into them and pick up ink when printing. In routing large spaces you may find it necessary to go almost to the canvas back of the linoleum, while in small areas surrounded by black the shallow cut of a small gouge is deep enough. Particularly in the case of small areas of black surrounded by large spaces of white you must be careful not to cut down too straight and deep. Work from the edges of the small printing area in a gradual curve towards the deepest part of the rout so as to give this small printing area a base that will hold up under the squeeze or pressure of the press. Figure 7 shows a cross section of a linoleum block and will give you an idea of the relative depth of the routed spaces and also shows how the base of small printing areas surrounded by white should be built up.

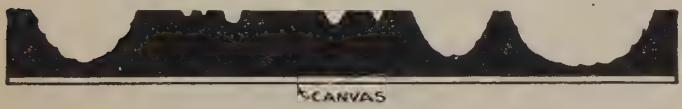


Figure 7

The outside border of the design can now be cut. With the knife held straight (as illustrated in Figure 8) and with the steel square as a guide, cut straight down and through the canvas back of the linoleum.

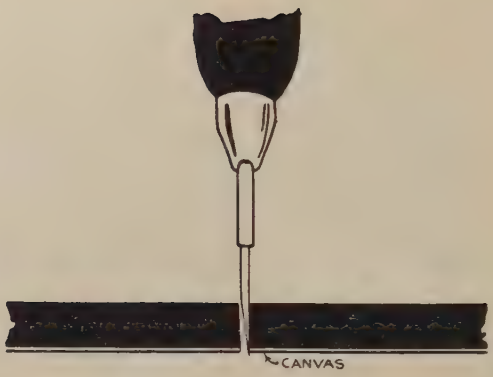


Figure 8

With experience you may find it desirable to engrave the block entirely with the gouges. This is perfectly possible and results in a delightful freedom of execution which takes its character from the type of gouges used. But this should not be attempted until you are familiar with your medium and tools. Figure 9 shows a block cut in this way.

Figure 9

CHAPTER V

PRINTING THE BLOCK

In printing from a one color block the first step is inking or charging the block. With your pallette knife mix your ink to the desired color and consistency on the marble or glass slab. Then by means of the brayer roll it out on the slab until the ink is evenly and thinly distributed on the roller. Now charge the block by rolling the ink over the linoleum first one way and then the other. Be careful not to ink the block too heavily because it is liable to squeeze out and give a ragged and smudgy edge to the lines. A good print has just enough ink to give a flat, even tone and the texture of the paper can be seen through the printed parts. To print the block you may use any of the presses described in the chapter on Tools and Equipment, or you may print them by hand. In the case of very small blocks they can be stamped by hand in the manner that a rubber stamp is used. In printing larger blocks by hand place the inked block on a table face up and lay the paper over it. Then rub the paper with the back of a spoon until you have exerted enough pressure over all the printing surface for the ink to adhere evenly to the paper. In printing on any of the presses de-

scribed the inked block is laid face up on the bed of the press and the paper laid over it ready for printing. The problem in any of these presses is to get sufficient pressure (be sure there is not too much or the block will break down) evenly distributed over the whole surface of the block. Whatever press you use you will have to experiment with until you discover its idiosyncracies. The letter press must have sufficient padding above and below the block, the etching press or clothes wringer press calls for several sheets of manila paper on top of the printing paper and in using the job press the block must be mounted type high and should be printed by an experienced printer. The use of this last press for quantity work is a study in itself.

If your first proof comes from the press showing the white grain of the paper through the solid parts one or all these three things is the cause,

1–there was not enough ink on the block

2–the ink was not thin enough to flow properly

3–you did not use sufficient pressure

If one side of the block is printed correctly and the other side looks gray and shows the white paper through the ink, the pressure of the press is not even and should be corrected.

Printing ink is affected by temperature and in winter sometimes becomes so stiff it will not print

until it is warmed over a radiator or stove. If it is necessary to thin the ink use printer's reducing varnish or linseed oil.

Don't be discouraged if your first prints do not come out to your satisfaction. Just as in cutting the block, it takes time and experience to make really good prints.

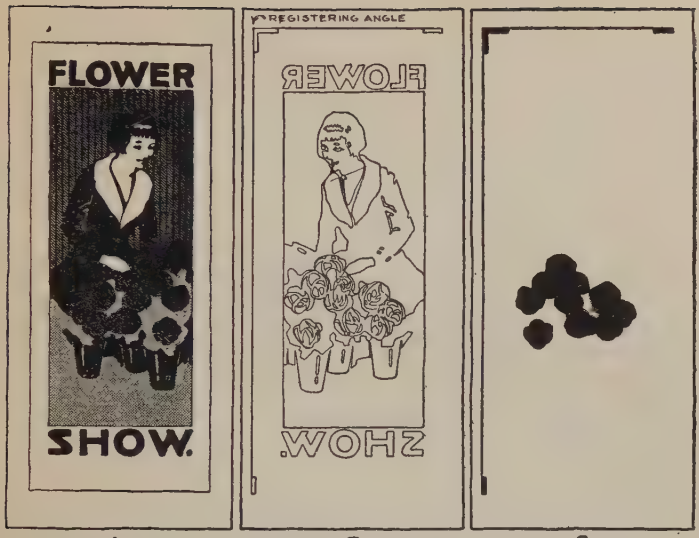
CHAPTER VI

DESIGNING AND CUTTING BLOCKS OF TWO OR MORE COLORS

In planning a design to be printed in two or more colors you must remember that as in the case of one color prints the design is the most important thing. Designing a composition for the two or more color process differs from one color printing in that you must plan your design in as many colors as you wish it to print. Each color in the design must be engraved on a separate block and each block must be printed separately. The problem then is to make each block register or print in its proper place on the paper. This is done by cutting each block so that it will register on the same right angle. This angle is first established or drawn with the steel square on the careful tracing which you make of your design, outlining all the planes of color (see B, Figure 10,).This angle must be drawn very accurately, because it forms the outside edge of your registering marks or the angle on which you register the blocks. Also these marks will print in each plate and should be placed far enough from the edge of the design so that they can be trimmed from the print and

still leave the required margin of paper around the picture.

Prepare the linoleum as described in Chapter III. You will need a separate block for each color that there is in your design. If your design has four colors you will need four pieces of linoleum large enough to include the registering marks and the design. Reverse the tracing and to one of the blocks transfer all the parts of the design that are to print in red (see C, Figure 10). Also carefully transfer the registering marks, using the steel square to do so. Then transfer to another block all the parts that are to be yellow (see D, Figure 10) and to another block all the parts that are to be blue (see E, Figure 10), etc., till you have all the colors on their separate blocks, being sure that on each block you have transferred the registering marks, using the steel square. To avoid confusion in transferring it is helpful to indicate on the tracing the different color spots to be transferred to different blocks in some such way, as R for red, Y for yellow, etc.



A
DESIGN

B
TRACING REVERSED

C
RED BLOCK

D
YELLOW BLOCK

E
BLUE BLOCK

F
BLACK BLOCK

Figure 10

The blocks are now ready to be engraved. Cut the registering marks first, using the steel square. Place the steel square accurately on the angle formed by the registering marks and with the knife held straight, as shown in Figure 8, cut straight down and clear through the canvas back of the linoleum. When this cut has been made on both the left and top edges, you will see that these two edges of the linoleum then form a right angle and that the different parts of the design in each block are in their relative positions to this angle. Each block is then engraved as described in Chapter IV.

As it is not necessary to have all of each side of the registering angle print, only a small mark at each corner is left and the rest routed away, so that it will not pick up ink in printing (see registering marks shown in Figure 10).

There is one difference in engraving blocks for printing in more than one color. As the colors generally must join each other it takes a great deal of skill and accuracy to cut the blocks to register in this way. If you should cut inside the lines it would leave an annoying streak of white between each color in the print, so that it is better to cut slightly outside the line and let the colors bleed under each other. But this must not be exaggerated or it will show a line formed by the combination of the two colors.

In the case where a color is outlined by black and the black is the last color printed you can allow as much as 1/32" bleed or more. This is particularly true where you cut your blocks from a key plate.

If one of the colors in your design, the black for instance, forms a key, that is, if it surrounds or locates the other spots in the design, it can be used as a key plate. Make a careful tracing of this key color, using a fine pen as before. Mark on this tracing the registering marks as described above. Transfer this tracing and the registering marks to a piece of linoleum prepared as described before and then engrave this block. When the block is cut and the registering marks cut as described above, ink the block and print on a piece of paper which is not too absorbent. Then lay this wet print face down on a piece of prepared linoleum, being sure that the registering marks come inside the edges of the linoleum, and rub the paper well so that the print comes off on the linoleum reversed. Print this key plate in this way on as many blocks as there are colors in your design. If your key plate is really a key it will then indicate the location of each color spot (see Figure 11). Engrave these blocks, being sure to cut the registering marks in each block. You are now ready to print.

Figure 11

CHAPTER VII

REGISTERING AND PRINTING TWO OR MORE BLOCKS

In making impressions of two or more color blocks it is necessary to have a register sheet. If you use a letter press or a Washington Proving press this consists of a piece of cardboard to which the paper is clipped. With the steel square draw on this cardboard a right angle and then glue down accurately little pieces of cardboard, thinner than the linoleum, so that the inside edges of the small pieces of cardboard form a right angle corresponding exactly with the registering marks on the color plates (see Figure 12).

If an etching press or a clothes wringer press is used the register sheet must also form a bed. In this case use a fairly heavy piece of stiff cardboard or very thin wood ply board and to this glue the small pieces of cardboard, thinner than the linoleum, to form a right angle as described above. Also on the side and across the top glue strips of stiff cardboard to which the paper is clipped. This bed moves between the rollers of the press thus making the print. (See Figure 13.)

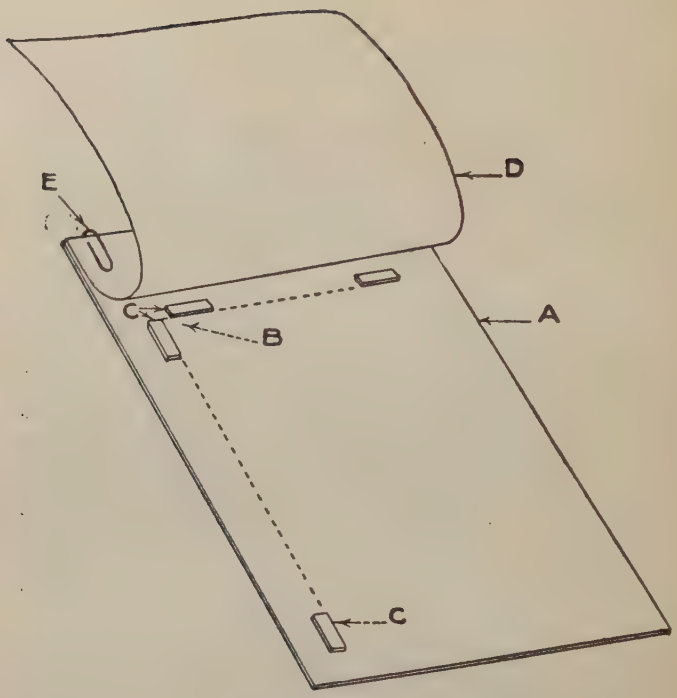


Figure 12

A—*Cardboard*

B—*Registering angle*

C—*Small pieces of cardboard*

D—*Printing paper*

E—*Paper clips*

The paper is clipped to the register sheet. Each block is charged with its proper color, slipped carefully into the angle formed by the small pieces of cardboard: the paper is brought over on the charged block, put in the press and printed.

This first block is then removed, a second block charged with its proper color, slipped into its place and so on until all the colors are printed. If you have been careful in transferring and cutting the registering marks each color should print correctly in its proper place.

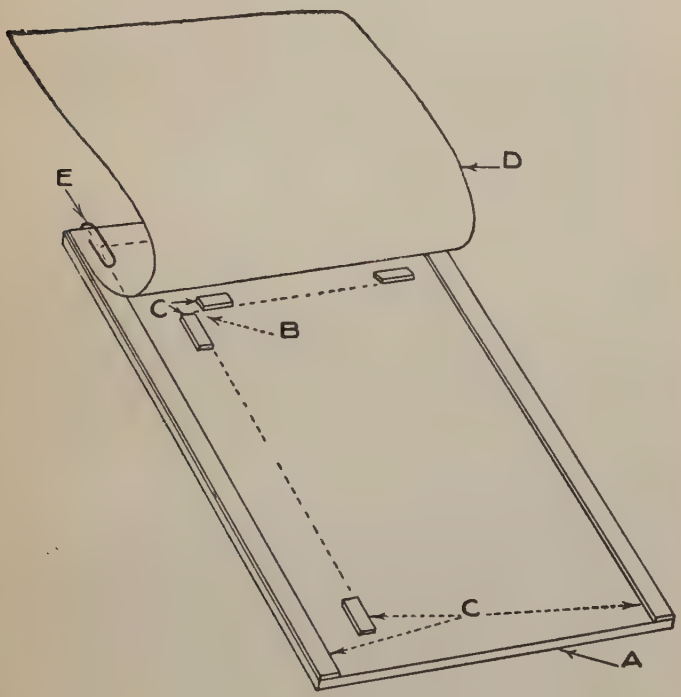


Figure 13

CHAPTER VIII

PRACTICAL USES OF LINOLEUM BLOCK PRINTING

You will unquestionably find the engraving of linoleum blocks fascinating and your gratification when you pull good prints will more than repay you for your efforts, but at the same time you need not consider the craft of linoleum block printing as a mere pastime. This process can be very successfully applied to many practical uses. When only a small number of copies of a design are required this method of reproduction is much cheaper than any of the other forms of graphic art. To reproduce as small a number as 100 posters in three or four colors by lithography or color process would not be practical. Such a small edition would not warrant the necessary expenditure for expensive plates needed for these means of reproduction.

The most lucrative field for the practical application of linoleum block printing is probably advertising, because so many business concerns find they can use a great many designs in color but that their requirements call for only a limited number of reproductions from each design. This

is particularly true when the advertiser wishes to reach only local trade. The department stores have found that posters placed in the elevators, in the windows and at different points of advantage throughout the store are of inestimable value in getting over certain points of their selling campaigns. Chain stores are always in need of attractive window and counter cards. A manufacturer whose distribution is entirely local wishes to keep his product before the public by advertising through posters displayed by his dealers or car cards in the local street cars. These and many others are continually in the market for advertising designs and if you are in a position to design and reproduce these posters in the small number required and at reasonable cost to your client you will undoubtedly find him a most enthusiastic and willing buyer.

The simple treatment of subject matter which the engraving of linoleum requires naturally lends itself to poster design. A successful poster stops you, holds attention and creates a desire to do what the advertiser wishes of you. It may be a desire to buy the article advertised, to give to a deserving charity, to go to a certain theatre, or any number of similar impulses. The poster is generally seen at considerable distance and must be read while passing, so that you must tell your whole story simply and directly as it must be understood

at a glance. If your design is really a good poster there is no better way to reproduce it than by linoleum blocks. The medium seems to give added strength to even the most virile designs.

In addition to posters and car cards it is practical to reproduce in this way the following things also used in advertising:

Booklet covers
Illustrations for hand bills
Newspaper advertisements
Counter cards
Illustrated price cards
Wrapping papers
Papers for covering boxes
Address labels
Shipping tags
Letter heads
Announcements

Good greeting cards * are always in demand and very successful designs can be printed in color from linoleum blocks or they can be printed in one color and then tinted by hand. If your cards have merit you will have no difficulty in selling them either directly or through your local dealer. The following list will give you an idea of the great number of subjects there are for developing a series of designs of this kind:

* The subject of greeting card design is discussed at length in "How to Design Greeting Cards," by Elizabeth and Curtiss Sprague, Bridgman Publishers.

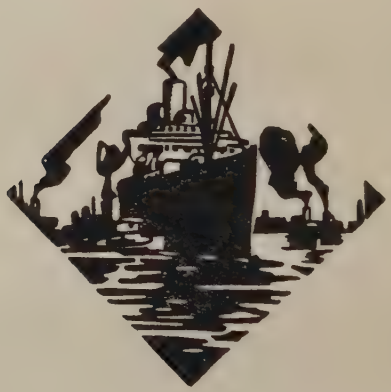
Christmas cards
Valentines
Easter greetings
Birthday greetings
Party invitations
Place cards
Birth announcements
Birth congratulations
Mother's Day cards
Congratulations
Every day greetings
Covers for bridge scores
Tally cards
Post cards
Christmas wrapping paper
Illuminated mottoes
Decorative papers for covering boxes
Small prints in color for framing

In addition to the above there are many other things that can be illustrated and printed from linoleum blocks, such as:

Programs
Menus
Bookplates
End papers for books
Book illustrations
Ornaments for books, etc.

In concluding this treatise on linoleum block printing let us stress again the point that the design

is the most important part of the whole process. If you start with a poor design the result will never be satisfactory, regardless of how great a skill and accuracy you show in engraving the block. Keep this always in mind, that the art should always be preeminent and the craft secondary. Strive for quality in designing, cutting and in printing. It is better to make a few prints well than to reproduce a great number of poor ones.



Engraved by Norman Kent

Engraved by Norman Kent

Engraved by Curtiss Sprague

Engraved by E. H. Suydam

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Engraved by Norman Kent

Engraved by Norman Kent

Engraved by Curtiss Sprague

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Engraved by Wilfred Jones *Courtesy Scribner's Magazine*

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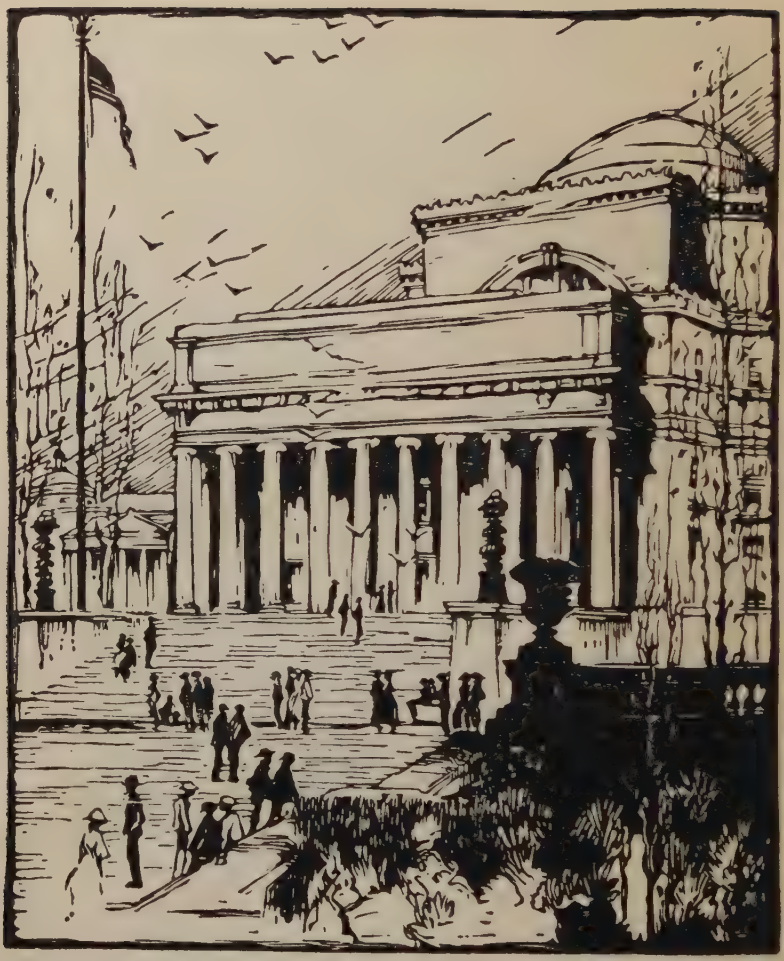

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Engraved by Wilfred Jones *Courtesy Scribner's Magazine*

Engraved by Wilfred Jones *Courtesy Scribner's Magazine*

Engraved by Clayton Knight

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